DOCUMENT RESUME

ED 465 341 HE 034 991

AUTHOR Jaeger, Audrey J.
TITLE Job Competencies and the Curriculum: An Inquiry into Emotional Intelligence in Graduate Professional Education.
PUB DATE 2002-00-00
NOTE 47p.
PUB TYPE Reports - Research (143)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Business Administration; Competence; *Curriculum; *Emotional Intelligence; *Graduate Students; Graduate Study; Higher Education; *Job Skills; *Professional Education

ABSTRACT

Empirical research has produced evidence suggesting that the ability to assess, regulate, and utilize emotions (i.e., emotional intelligence) is important to the performance of workers. Yet, few graduate professional program curricula adequately address the emotional and interpersonal skills that prospective employers most want in their employees and that employees find most useful in their work. This study examined the role emotions play in the academic performance of graduate students. The study used a convenience sample of 158 students in 5 sections of a general management course. Emotional intelligence was discussed in only one of the five sections. Data suggest that graduate students in a curricular group in which emotional intelligence was a focus significantly improved their emotional intelligence. The results from this study show that emotional capacities could be enhanced in the traditional graduate classroom. Furthermore, findings reveal a strong relationship between emotional intelligence and academic performance. (Contains 1 figure, 9 tables, and 63 references.) (SLD)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 465 341

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

A. Jaeger

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Job Competencies and the Curriculum: An Inquiry Into Emotional Intelligence in Graduate Professional Education

Audrey J. Jaeger, Ph.D.

North Carolina State University

Contact Information:

Department of Adult, Community College, and Higher Education

310H Poe Hall, Campus Box 7801

Raleigh, NC 27695-7801

audrey_jaeger@ncsu.edu

HE034991

BEST COPY AVAILABLE

Abstract

Empirical research has produced evidence suggesting that the ability to assess, regulate, and utilize emotions (i.e., emotional intelligence) is important to the performance of workers. Yet, few graduate professional program curriculums adequately address the emotional and interpersonal skills that prospective employers most want in their employees and that employees find most useful in their work. The results from this study showed that these emotional capacities could be enhanced in the traditional graduate classroom. Furthermore, findings revealed a strong relationship between emotional intelligence and academic performance.

Job Competencies and the Curriculum: An Inquiry Into Emotional Intelligence in Graduate Professional Education

Today's forward-looking corporations actively strive to determine what employee characteristics are of greatest value in enhancing organizational effectiveness and efficiency. Considerable research has been conducted on this subject by corporate human resource departments, university departments of applied psychology, and business schools. The results of the research have most frequently pointed to a combination of knowledge, skills, and genetic traits (such as overall intelligence) as the best indicator of individual competence. Lately, however, new research has produced evidence that these characteristics may be less important to effective worker performance than the employee's "emotional intelligence" (Goleman, 1995, 1999). Emotional intelligence is defined as an array of non-cognitive abilities, capabilities, and skills that influence one's capacity to succeed and cope with environmental demands and pressures (Bar-On, 1997a, p. 3). In order for one to perform effectively, one's knowledge, skills, and overall intelligence must be augmented by the ability to perceive, understand, and regulate emotions. Furthermore, research suggests that emotional intelligence is not ineluctably set at birth but can be developed through education and training (Mayer & Caruso, 1999).

Job Competencies and the Curriculum

Professional education has a history of preparing students for jobs in particular professions. To help identify the "right" employees for professional positions (i.e., those who are most likely to contribute to organizational effectiveness), organizations are tailoring their employee recruitment and selection criteria toward the assessment of interpersonal and communication abilities (Sullivan, 1995). However, few graduate professional schools are capitalizing on the research addressing emotional intelligence as a means to develop the intrapersonal and interpersonal capabilities of students. Professional programs focus on educating students in the latest theory and research. Hoberman and Mailick (1994, p. 9) note that faculty members seldom have the time, training, experience, or will to help students acquire the competencies they will need to relate to clients, fellow professionals, and others in the workplace. Although graduates will need to possess the skills necessary to interact with others in ambiguous and

BEST COPY AVAILABLE

unstable situations, professional education has not embraced the use of emotions to develop such skills. Curriculums are rarely designed to help students discover and improve their levels of emotional intelligence. Fields of professional practice have not yet recognized the connection between emotional intelligence and job performance; consequently, professional schools are not including it in their curriculums.

While researchers (Denhardt & Aristigueta, 1996; Diamond, 1993; Senge, 1990) have explored the consequences of failure to develop emotional and interpersonal capacities in organizations, few graduate professional program curriculums adequately address the intrapersonal and interpersonal skills that prospective employers most want in their employees and that employees find most useful in their work. In the face of this problem, organizations are providing the necessary training for the unprepared graduates they hire. Many corporations are investing millions of dollars to assess and enhance emotional intelligence in their employees through training and development, in performance evaluation, and through hiring practices (Cherniss, 1999; Cherniss & Goleman, 1998, 2001; Goleman, 1998; HayGroup, 1999). Though a number of companies have embraced the concept of emotional intelligence, most higher education institutions mandated to educate professionals for business and public service have yet to show a similar response. Hoberman and Mailick (1994) note that graduate students do not learn how to integrate the competencies needed to run an organization and relate to people. Haworth (1996) notes that employers have raised critical concerns about the often poorly developed communication skills, as well as interpersonal skills, of many advanced degree recipients. Emotional intelligence may be the bridge between critics and educators of graduate professional education.

Professional school graduates are frequently seen as lacking appropriate skills to deal with their own emotions and the emotions of others, unable to adapt to change, and inept at effective group work. It would appear that to remedy these weaknesses, teaching strategies focused on emotional skill development could be part of traditional organizational behavior/theory courses. Adding educational objectives that address emotional and interpersonal development to an administrative curricula is not a substitute for other material. In fact, Holmer and Adams (1995) note that cognitive and emotional

development are inseparable. An emphasis on one to the exclusion of the other leads to diminished performance (Holmer & Adams, 1995, p. 9).

Boyatzis and Goleman (1999) have discussed the role of emotional intelligence in the development of competencies critical to success on the job; yet, emotional intelligence is also important to the way in which individuals learn. Emotions influence a host of cognitive processes and affect the motivation to learn (Planalp & Fitness, 1999). As the concept of emotional intelligence becomes commonplace in the work environment, it is important to provide graduate students entering the professional workplace with an opportunity to explore their own emotional competencies and better understand how emotions affect their learning and performance.

Emotions and the Curriculum

Interest in emotions dates back to ancient Greece and the Stoic movement (c. 200 B.C.E. to 300 C.E.), which examined the role of emotion in leading a good life (Mayer, Salovey, & Caruso, 2000a, p. 4). And the academic study of emotions and cognition can be traced back to the late 1800s (Kaufman, 1993). The conflict between respecting and denying emotions is also long standing (Mayer et al., 2000). Mayer and Salovey (1997) note that for centuries psychologists have recognized the three-part division of the mind into cognition (thought), affect (including emotion), and motivation (or conation). Intelligence pertains to abilities, such as the power to combine and separate concepts, to judge and to reason, and to engage in abstract thought (p. 4).

It has been only within the last several decades that scientific research regarding emotional influences on learning and development has been integrated with research on cognition and social processes (Love & Guthrie, 1999; Love & Love, 1995). Ingleton states that research addressing learning that maintains the split between the affective and cognitive aspects of a person's experience misses the significantly cognitive component of emotion and the affective component of cognition (p. 323). "Emotion cannot be separated from learning," states Ferro (1993, p. 29). Ferro (1993) states that recognizing the tremendous influence that the affective domain has on how students function and learn

BEST COPY AVAILABLE

will encourage educators to seek out strategies that both tap into the affective realm and effectively use it to enhance the overall cognitive process and academic achievement.

Emotions are organized responses that adaptively trigger cognitive activities and direct actions (Salovey & Mayer, 1990). Emotions provide people with valuable information about themselves and how they relate to others. Mayer and Geher (1996) add, "People who are good at connecting thoughts to feelings may better 'hear' the emotional implications of their own thoughts, as well as understand the feelings of others from what they say" (p. 89). The ability to recognize the meanings of emotions and their relationships, and to reason and problem solve on that basis, is the result of emotional intelligence (Mayer, Salovey, & Caruso, 2000b, p. 267.) It is the combination of emotion and intelligence and their influence on decision making that connects them to the learning process.

Some might argue that cultivating the emotional lives of students is not the responsibility of graduate professional education. Yet this viewpoint fails to accommodate the fact that students relate to instruction emotionally (Elder, 1997, p. 40). Elder notes that students feel something about what is going on in the classroom and that feeling, at least in part, determines how students act in the classroom.

> The quality of each of our lives is ultimately gauged by the feeling states created in our minds. Those feeling states, or emotions, are directly related to the thinking that guides our behavior. In other words, "emotional intelligence" is created by high quality thinking which leads to quality emotions. Therefore, if we are concerned that our students learn the skills of mind, we must have some understanding of the relationship between the cognitive function of the mind and the affective (or feeling/motivation) dimension of the mind...most simply, emotional intelligence can be conceived as a measure of the degree to which a person successfully (or unsuccessfully) applies sound judgment and reasoning to situations in the process of determining an emotional or feeling response to those situations. It would entail the bringing of cognitive intelligence to bear upon both positive and negative emotions. It would be a measure of the extent to which our

affective responses were "rationally" based. Emerging naturally out of rational emotions would be reasonable desires and sensible behaviors (p. 40).

"Acknowledgement of feelings to oneself and the subsequent judgment as to the origins and validity of those feelings are critical means of learning and change," adds Coghlan (1993, p. 93). Feeling good, alienated, afraid, or inadequate all influence the learning process. "All these emotional states profoundly affect the experience and thus the process of learning from that experience and thus the final learning outcomes from that experience" (Thatcher, 1990, p. 290). Emotional intelligence is a measure of the degree to which a person successfully (or unsuccessfully) applies sound judgment and reasoning to these emotional states.

If emotions are important to the learning process, are they also important to a student's academic performance in the classroom? Is there a relationship between academic performance and the capacity to assess, understand, and manage emotions?

This study examined the role emotions played in the academic performance of students. Academic performance is typically referred to as achievement. Achievement is the level at which a person has learned to perform a particular skill (Mayer & Salovey, 1997, p. 3). Achievement in the classroom has been linked to numerous factors, including instructional environment (Dunn, 1987), student effort and innate ability (Uttal, 1997), school size (Lee & Loeb, 2000; Lee & Smith, 1997), class size (Nye, Hedges, & Konstantopoulos, 2000), teacher expectations and attitudes (Lee & Loeb, 2000; Cooper & Tom, 1984), socioeconomic status (White, 1982), school expenditures (Hanushek, 1989), and school resources (Greenwald, Hedges, & Laine, 1996).

Researchers and practitioners are exploring, within the primary and secondary environments, another possible link to achievement–emotional intelligence (Graczyk et al., 2000). Studies have addressed a variety of concepts related to emotional intelligence that also influence academic achievement, including positive peer relationships and prosocial behavior (Wentzel, 1991).

Studies addressing emotional intelligence and academic performance in the collegiate environment have shown mixed results and tend to define academic performance dissimilarly. Both

BEST COPY AVAILABLE

significant and nonsignificant relationships have been found to exist between emotional intelligence and academic performance (Koifman, 1998; Schutte et al., 1998; Stewart, 1997; Swart, 1996; Sutarso, Baggett, Sutarso, & Tapia, 1996; Tapia, 1998). Because of the limited number of studies and limited confidence in them, the research community cannot conclude from them the existence of a relationship between emotional intelligence and academic performance. Further, emotional intelligence has not been addressed in relation to graduate professional education academic achievement. As researchers continue to explore the factors that contribute to academic performance in graduate school, emotional intelligence seems to be both relevant and applicable.

Understanding how emotional intelligence is related to learning and academic performance could assist faculty in designing courses that maximize student learning and academic achievement and ultimately better prepare students for the work environment. This knowledge base could help students perform better in the classroom and in the workplace.

Development of Emotional Intelligence

General intelligence is still a topic of academic discussion and conflict. Its history reveals a variety of approaches to its understanding (Spearman, 1904, 1914; Gardner, 1983, 1993a, Sternberg, 1985, Neisser, 1976). Sternberg (1985) states that intelligence is among the most elusive concepts. He notes that few other theories have been conceptualized in as many different ways. Often intelligence is referred to as "general intelligence," commonly identified with the psychometric or factor approach of Spearman's *g* (Spearman, 1904, 1914).

This notion of general intelligence has been challenged by Gardner and others who support the philosophy that intelligence encompasses multiple components and that no single measure of intelligence is adequate. Gardner's (1993b) personal intelligences, the interpersonal and intrapersonal, have generated the most interest among researchers and practitioners in psychology and education. Gardner defines interpersonal intelligence as having an outward focus and intrapersonal intelligence as being focused inward. Although Gardner's work contributes to the development of emotional intelligence theory, Goleman (1995) states that Gardner's work has not pursued, in detail, the role of feeling within

intelligences and focuses more on cognition about feelings. Gardner underestimates the potentially powerful use of emotions toward the achievement of life goals in the intrapersonal and interpersonal domains.

Emotional intelligence adds an affective dimension to Sternberg's work on practical intelligence, is consistent with theorizing about social intelligence, and is closely related to Gardner's intrapersonal intelligence, one of his multiple intelligences (Salovey, 1999). The first definition of emotional intelligence was developed by Salovey and Mayer (1990). Emotional intelligence is a type of social intelligence that involves the ability to monitor one's own and others' emotions, to discriminate among them, and to use the information to guide one's thinking and actions (Salovey & Mayer, 1990). Although emotional and social intelligence are related, as all intelligences should be, emotional intelligence differs in that it addresses the manipulation of emotions and emotional content (Mayer & Salovey, 1993). Mayer and Salovey (1997) suggest that the concept of emotional intelligence combines a group of abilities that are more distinct than the social domain of general intelligence but not so distinct that they are separated from the intelligence triad. They contend that emotions and intelligence should connect in some way if the two meanings are to be preserved and that "a low-to-moderate correlation is preferred to a nonexistent correlation; no correlation at all could suggest that the new 'intelligence' is so different that it is not an intelligence at all" (p. 6).

In order for an intelligence to be considered scientifically legitimate, it must meet several standard criteria (Mayer, Salovey, & Caruso, 2000b).

> First, it should be capable of being operationalized as a set of abilities. Second, it should meet certain correlational criteria: the abilities defined by the intelligence should form a related set (i.e., be intercorrelated), and be related to pre-existing intelligences, while also showing some unique variance. Third, the abilities of the intelligence should develop with age and experience (p. 267).

Mayer and Salovey (1993) state that the emotional intelligence framework organizes the existing literature on individual differences and the capacity to process and adapt to affective information.

BEST COPY AVAILABLE

Emotional information is contained within many intellectual problems; the processing of this information is different from the processing of non-emotional information.

Bar-On's Theory of Emotional Intelligence

This study used Reuven Bar-On's (1997b; Bar-On & Parker, 2000) model of emotional intelligence. The model is multifactorial and relates to the potential for performance (rather than performance itself) and is process, rather than outcome oriented. Bar-On uses the term "emotional intelligence" to denote this construct for several reasons. He states, "Intelligence describes an aggregate of abilities, competencies, and skills that represent a collection of knowledge used to cope with life effectively. The adjective emotional is employed to emphasize that this specific type of intelligence differs from cognitive intelligence" (p. 3). Bar-On admits that the individual factors of emotional intelligence resemble personality factors; however, these factors change and can be altered throughout life. In addition, he notes that the term "success" as described in his definition of emotional intelligence is defined as "the end-product of that which one strives to achieve and accomplish" (p. 3). Bar-On acknowledges that the term "success" is very subjective and socially and culturally influenced.

Bar-On's (1997a) theory of emotional intelligence includes five major conceptual components with multiple subcomponents, or factors (see Table 1).

According to Bar-On (1997b), the Intrapersonal scale assesses the inner self. High scores on this composite scale indicate individuals who are in touch with their feelings and can adequately express them, feel good about themselves, and feel positive about what they are doing in their lives. The Interpersonal composite scale addresses interpersonal skills and functioning. Individuals who score high in this area understand, interact with, and relate well to others. The Adaptability composite scale helps reveal how successfully one is able to cope with environmental demands by effectively understanding and addressing problematic situations. The fourth composite scale score, Stress Management, relates to an individual's ability to handle tasks that are stressful or anxiety provoking in a relatively calm and non-impulsive manner. The final composite scale score, General Mood, is used as a facilitator. According to

Bar-On (1999), a facilitator is correlated with other factors. General Mood helps "facilitate" the development of other scales.

Research Questions

This study explored whether the theory of emotional intelligence affects graduate students' learning process. Furthermore, it addressed the development of emotional intelligence through planned intervention. Researchers state that emotional intelligence can be learned; yet, the literature is not available to point out the most effective ways to teach the concept. This research examined two areas: emotional intelligence development and its effect on academic performance.

1. Is there a difference between initial (pretest) and ending (posttest) levels of emotional intelligence? How does emotional intelligence change over the period of a semester? Is difference or change related to type of curriculum?
2. Is there a relationship between emotional intelligence and academic performance? Is the relationship related to curriculum type?

Method

This research study was an exploratory, empirical, multimethod study of the relationships among emotional intelligence, learning style, and academic performance at the beginning and end of one semester. The research examined the nature of change in emotional intelligence based on the acquisition of self-awareness of emotional intelligence and the potential development of emotional intelligence. A descriptive pretest/posttest design was used. Analysis was conducted to identify if differences existed between the two types of curriculums offered.

Population and Sample

The population for this study comprised students in graduate schools of public administration (also referred to as schools of public affairs, public service, and public policy). According to the National Association of Schools of Public Affairs and Administration (NASPAA) (1998), there are approximately 245 schools of public administration across the United States. The student bodies of these institutions, according to the most recent NASPAA data, averaged 10 percent international students, 29 percent

BEST COPY AVAILABLE

students of color, 62 percent female students, and 57 percent part-time students (defined as taking fewer than 12 credits per semester).

This study utilized a convenience sample of 158 students in five sections of a general management course taught in the fall 1999 semester at a graduate school of public administration in a large private university in the northeastern United States. The enrollment figures of the study School were nearly identical to the national averages identified by NASPAA in the following four dimensions: nationality, ethnicity, gender, and part-time/full-time status. Furthermore, since this course was a requirement for all students in the School, those enrolled were representative of the entire graduate student body at the School.

The similarities across the three student profiles suggest that the results of the study using this sample may be generalizable to the larger population of students at graduate professional schools of public administration at private universities. Students enrolled in public universities, however, may be different in ways not represented by available statistics, and no conclusions about that subpopulation may be drawn from this study. The NASPAA data reported previously include both public and private institutions. NASPAA statistics do not distinguish between the two types of institutions.

Sample Selection

Students registering for the five sections of the general management course were not informed of the nature of the study until the first day of class. Therefore, self-selection or volunteer bias based on student personality or personal preference was minimized. Students were not aware of any special characteristics of individual instructors when they registered. Students registered for a particular section of the course based on when the course was offered. Students were briefly introduced to the study during the first class, at which time they had the opportunity to decline involvement.

The sections of the course were differentiated in order to assess the potential impact of a pedagogy that incorporated emotional intelligence. The objectives for all sections of the course included:

> 1) distinguish the roles that a manager must play on the job; identify the key skills required for success as a manager and as a team player; and begin building a repertoire

of these skills—with particular emphasis on personal and interpersonal competencies for successful group participation; 2) become effective problem solvers and seekers of opportunities to improve the quality of public services; and 3) be sensitive to ethical issues confronted by managers at the individual and organizational level—with special emphasis on the importance of integrity, professionalism, and social responsibility.

The instructor introduced into the course material in only one of the five sections the concept of emotional intelligence. Henceforth, this section will be referred to as the "EI curriculum section." In addition to the common content of management concepts (e.g., continuous improvement, power, decision making, organizational culture, managerial style, ethical issues, and service delivery), the EI curriculum section discussed components of emotional intelligence as critical factors for successful managers and successful group experiences. Moreover, several items were unique to this section: a) required readings included three chapters of Goleman's (1998) book *Working with Emotional Intelligence*, b) restructured course content drew attention to the human component of management within the first three weeks of the semester, c) various case studies used in the course were discussed in relation to emotional intelligence capacities of managers, d) students were provided their EQ-i results in a one-hour session with an organizational psychologist, e) incorporation of emotional intelligence concepts was an essential component of the group project experience, and f) general student awareness of individual EQ-i scores allowed for opportunities to develop strategies to improve emotional intelligence throughout the course.

The four sections not discussing emotional intelligence will be referred to as "non-EI curriculum sections." These sections were taught with no time allotted to emotional intelligence. Students in these sections were not given the opportunity to see their EQ-i results. To ensure that all sections covered the same amount of general management material, the EI curriculum section had one additional class session to compensate for the incorporation of emotional intelligence literature. Aside from the incorporation of three chapters from Goleman's book in the EI curriculum section, the reading assignments for all sections were the same. The general expectations and goals, grading structure, and assessment techniques were identical for all sections.

BEST COPY AVAILABLE

Different instructors taught each of the five sections. To control for possible differences in teaching ability among the five instructors, student evaluations of teaching effectiveness were examined for each instructor for the current semester and four previous semesters. Instructors were evaluated for each course on a five-point scale ranging from "superior = 1" to "failing = 5." The average overall student ratings for the five faculty members were 1.5, 1.6, 1.6, 1.8, and 1.8. All ratings fell between the categories of superior and above average; therefore, according to student evaluations no significant difference in teacher effectiveness was found among faculty members. The average student rating for the entire study School is 1.8 (n = 88, SD = .53).

Measuring Emotional Intelligence

The BarOn Emotional Quotient Inventory (EQ-i) was used to measure emotional intelligence. The BarOn EQ-i comprises 133 items and employs a five-point response set ranging from "Not True of Me" to "True of Me." The instrument produces a total EQ-i score, five EQ composite scale scores, and 15 EQ subscale scores. The 15 subscale factors are briefly described in Table 2.

Table 3 illustrates how to interpret EQ-i scores as depicted in the *EQ-i Technical Manual* (Bar-On, 1997c). Respondents' scores in this study ranged from 66 to 134. A score below 70 indicates a typical impaired emotional capacity, whereas a score of 130 or above indicates well-developed emotional capacity.

Measuring Academic Performance

Academic performance in this study was measured by the final project grade achieved by students. The final project grade included a paper and oral presentation. Students were asked to select an organization to analyze, based on one of the theories/concepts discussed in the course. Although there are concerns with using letter grades as a means of evaluation of academic performance (Edwards & Edwards, 1999), few valid alternatives have been offered, and they are adopted here as an appropriate measure.

The overall course grade was not chosen because it would include assignments that were completed before significant exposure to emotional intelligence was provided in the EI curriculum

section. Given that students must achieve a B average to graduate from the research institution from which the sample was drawn, there was minimal variance in course grades given. Grades were based on a scale ranging from A to F (A = 100.0-93.0, A- = 92.9-90.0, B+ = 89.9-87.1, B = 87.0-83.0, B- = 82.9-80.0, C+ = 79.9-77.1, C = 77.0-73.0, C = 72.9-70.0, F = 69.9-0).

To control for beginning levels of intelligence and achievement, college grade point averages (GPA) were examined. Since Graduate Record Examinations (GRE) scores existed for only 30% of the study participants. these scores could not be used as a control variable. A Pearson product-moment correlation was calculated between available GRE scores and college GPAs of study participants. A significant correlation ($r = .607$, $p < .001$) was found; therefore, GPA was used as a control variable to assess if previous academic performance was a contributing factor in the results.

To determine the extent to which evaluation of student achievement was consistent across the sections, two randomly selected final projects were independently graded by the four instructors. Since the same letter grade was assigned by all four instructors, no bias in evaluation can be assumed.

Results

This study explored the development of emotional intelligence in graduate professional schools. It also examined the potential of emotional intelligence for improved academic performance.

Research Question One: Difference and Change in Emotional Intelligence

The first research question addressed pre- and posttest emotional intelligence scores as well as changes in scores over the period of one semester. Levels of emotional intelligence, as measured by BarOn's Emotional Quotient Inventory (EQ-i), included a total emotional intelligence score, five composite (Intrapersonal, Interpersonal, Adaptability, Stress Management, and General Mood) EQ-i scores, and 15 EQ-i subscale scores.

Total Emotional Intelligence Scores. Analysis of pre- and posttest differences in overall emotional intelligence scores and analysis of change in overall emotional intelligence scores were conducted. Further analysis was conducted to see if differences or changes were related to type of curriculum.

BEST COPY AVAILABLE

On average, the posttest total EQ-i scores increased for all participants over the period of the study. The pretest EQ-i score for the entire sample (N = 150) was 101.77 (SD = 13.23) and the posttest score was 105.22 (SD = 13.33). Table 4 shows the means and standard deviations of pre- and posttest EQ-i scores for the entire sample as well as for each curriculum group.

Paired t-tests revealed a statistically significant difference between total EQ-i pretest and posttest mean scores for the entire sample, t (149) = 4.711, $p < .001$. Paired sample t-tests also revealed statistically significant pretest and posttest mean differences for both the non-EI curriculum sections, t (118) = 2.727, $p < .01$ and the EI curriculum section, t (30) = 4.527, $p < .001$.

An ANOVA was conducted to identify if mean differences existed among the five sections of the course. The section that focused on emotional intelligence was identified as "section 7" in the analysis, whereas those sections of the course that did not focus on emotional intelligence were identified as "sections 1, 10, 13, and 16." All future analysis assumes section 7 as the EI curriculum section and the other sections as the non-EI curriculum sections. Significant differences were found between sections, F (4, 145) = 2.571, p = .04.

The Games-Howell posthoc test was used to establish where differences occurred in the sections. The Games-Howell multiple comparison test does not assume equal variances, which was necessary since the Levene homogeneity-of-variance statistic was not significant in any of the ANOVAs. Results of the posthoc analysis revealed statistically significant mean differences between the EI curriculum section and sections 10 and 13 of the non-EI curriculum groups.

Change in emotional intelligence was also analyzed. Comparing posttest scores does not reflect the pretest scores of participants. Identifying how much a student's emotional intelligence has changed over the course of a semester is more relevant than his or her final emotional intelligence score. To determine whether there were changes in overall emotional intelligence scores over the course of a semester, EQ-i change scores were compared. Changes in emotional intelligence for the entire sample were relatively small, 3.45 (N = 150, SD = 8.98). For those students in the EI section, overall change was

greater. The EI section had a mean change score of 9.9 (n = 31, SD = 12.18), whereas the non EI sections' mean was 1.77 (n = 119, SD = 7.09).

The direction of change showed differences between the two curriculum types. Of the entire sample (N = 150) 51 participants (34%) had a negative change in their EQ-i score, four participants (2.7%) had no change in their EQ-i score, and 95 participants (63.3%) had a positive change in their EQ-i score. Significant differences were identified by curriculum type. In the EI curriculum, 83.9% of participants had a positive change score as compared to 58% in the non-EI sections. Furthermore, in the EI curriculum, 16.1% of participants had no change or a negative change as compared to 42.1% in the non-EI sections. Application of the Pearson chi-square test of independence yielded a significant relationship between EQ-i change and type of curriculum offered, $X^2(2, N = 150) = 7.315$, $p = .026$.

Even more important than overall change in total EQ-i is whether the changes differed by sections. An ANOVA revealed statistical mean differences in mean scores between sections, $F(4, 145) = 6.003$, $p < .001$.

The date would suggest that graduate students in a curricular group where emotional intelligence is a focus can significantly improve their emotional intelligence over the course of a semester. Students in curricular groups that do not address emotional intelligence are less likely to make significant changes in emotional intelligence. The Games-Howell posthoc test indicated statistically significant mean differences between the EI curriculum section (section 7) and all of the non-EI curriculum sections (1, 10, 13, 16). Whereas posttest EQ-i scores showed significant differences between some sections, by using posttest EQ-i change scores significant differences were identified between the EI curriculum section and all other sections.

The largest change in total EQ-i scores occurred in the EI curriculum section (section 7). The actual change score is represented in Figure 1.

An exploratory analysis was conducted to determine if demographic factors were significant contributors to the difference between pre- and posttest scores. Using linear regression, age,

BEST COPY AVAILABLE

undergraduate GPA, gender, part-time or full-time status, US or non-US citizenship, and work experience were not found to contribute to mean differences.

Composite Scale Emotional Intelligence Scores. To determine whether there were differences in composite emotional intelligence scores over the course of a semester, pre- and posttest scores were compared. The analysis revealed that the EI curriculum section had higher posttest mean scores in all of the EQ-i composite scores. Table 5 shows the mean and standard deviation of pre- and posttest EQ-i composite scores for the entire sample as well as for each curriculum group.

Paired sample t-tests were calculated to determine if mean differences between pre- and posttest results for the entire sample ($N = 150$) were statistically significant. Paired t-tests revealed statistically significant differences in means on four of the five composite scale pretest and posttest mean scores for the entire sample, including the EQ-i Intrapersonal, $t(149) = 5.593$, $p < .001$; Adaptability, $t(149) = 2.815$, $p < .01$; Stress Management, $t(149) = 3.847$, $p < .001$; and General Mood, $t(149) = 4.028$, $p < .001$. The paired sample t-tests revealed no statistically significant differences between the pretest and posttest EQ-i Interpersonal composite scores for the entire sample.

In addition to the analyses for the entire sample addressing the five EQ-i composite scales, paired sample t-tests comparing the two curricular groups were also conducted. The t-tests revealed statistically significant pretest and posttest mean differences for all five EQ-i composite scores in the EI curriculum section [Intrapersonal, $t(30) = 4.436$, $p < .001$; Interpersonal, $t(30) = 3.327$, $p < .01$; Adaptability, $t(30) = 3.677$, $p < .001$; Stress Management, $t(30) = 4.568$, $p < .001$; and General Mood, $t(30) = 3.492$, $p < .01$] and for two of the composite scores in the non-EI curriculum sections [Intrapersonal, $t(118) = 3.932$, $p < .01$ and General Mood, $t(118) = 2.657$, $p < .01$)].

Further analysis was necessary to determine where the pretest-posttest mean differences existed by section. An ANOVA was conducted to determine if differences existed among the five sections in the five EQ-i composite scales. The ANOVA showed that only the EQ-i Interpersonal composite score had statistically significant differences between sections, $F(4, 145) = 2.657$, $p < .05$. Games-Howell posthoc tests for the Interpersonal composite score indicated statistically significant mean differences between the

EI curriculum section and three of the four non-EI curriculum sections. Since the Interpersonal composite score had statistically significant differences between sections, it was further separated into three subscale scores: Empathy, Interpersonal Relationship, and Social Responsibility. An ANOVA was conducted to determine if mean differences existed among the five sections in these three subscales. The ANOVA showed that the Empathy and Social Responsibility subscales had statistically significant differences between sections, F (4, 145) = 2.305, p = .05 and F (4, 145) = 4.095, p < .01, respectively. Games-Howell posthoc tests for Empathy and Social Responsibility indicated statistically significant mean differences between the EI curriculum section and the non-EI curriculum sections.

To determine whether there were changes in emotional intelligence composite scores over the course of a semester, change scores for the EQ-i subcomponents were compared. The mean change score was higher for each of the subcomponents of emotional intelligence in the EI curriculum section. Table 6 shows the means and standard deviations of change scores for the EQ-i subcomponents for the entire sample as well as for each curriculum group.

An ANOVA was conducted to determine if change in EQ-i composite scores differed among sections. The ANOVA revealed statistically significant differences relating to change for all five EQ-i composite scales. In addition to determining if differences did exist, additional analysis was necessary to determine where the difference existed among the sections of the course. Posthoc tests indicated statistically significant mean differences between the EI curriculum section and the non-EI curriculum sections in four of the five composite scores.

The EI group, on average, scored higher in each of the five emotional intelligence composite scale scores and had greater improvements in emotional intelligence over the course of a semester. In addition, posttest EQ-i scores and changes in EQ-i scores were significantly higher in the EI curriculum section than in the non-EI curriculum sections. Games-Howell posthoc analysis shows the difference between sections in each of the five composite scales: Intrapersonal, Interpersonal, Adaptability, Stress Management, and General Mood.

BEST COPY AVAILABLE

It could be speculated that the emotional intelligence levels of the instructor were a factor in student emotional intelligence scores. A qualitative examination of instructor emotional intelligence scores was conducted. Each of the five instructors completed the EQ-i. High instructor emotional intelligence was not related to high beginning (pretest) or ending (posttest) emotional intelligence scores of students.

Statistically significant mean differences were identified between pre- and posttest scores. Furthermore, statistically significant differences were found between the EI curriculum section and non-EI curriculum sections. To determine if curriculum had an effect on EQ-i posttest and change scores while controlling for pretest EQ-i scores, general linear model-multivariate analysis was used. Pretest EQ-i scores were used as a covariate with EQ-i posttest scores and EQ-i change scores as dependent variables. This analysis showed curriculum as having a significant effect on EQ-i posttest and change scores while controlling for pretest EQ-i scores, $F(1, 149) = 25.01$, $p < .001$.

Research Question Two: Emotional Intelligence and Academic Performance

This question addressed the relationship between emotional intelligence and academic performance. Pretest and posttest levels of emotional intelligence were correlated with academic performance. A comprehensive correlation matrix was developed using Pearson product-moment correlation analysis. An analysis of the entire sample revealed three significant correlations. Academic performance was positively correlated with beginning scores of total EQ-i ($r = .194$, $p < .05$) and the subcomponents of Stress Management ($r = .270$, $p < .01$) and General Mood ($r = .200$, $p < .05$). Separation of the sample by curriculum type uncovered differences were uncovered (see Table 7). Surprisingly, no positive correlations were found between any of the emotional intelligence variables and academic performance for the EI curriculum section, whereas several positive correlations were found with the non-EI curriculum sections. Within the non-EI sections, academic performance was positively correlated with total EQ-i score ($r = .215$, $p < .05$) and the subcomponents of Stress Management ($r = .303$, $p < .01$), General Mood ($r = .234$, $p < .05$), and Interpersonal ($r = .188$, $p < .05$).

Levels of emotional intelligence at the end of the study were also compared to academic performance. Change in emotional intelligence was included in this analysis. Analysis of the entire sample found that posttest total EQ-i score and all five subcomponents were positively correlated with academic performance. General Mood was most highly correlated with academic performance ($r = .338$, $p < .01$), followed by Stress Management ($r = .288$, $p < .01$), total EQ-i ($r = .268$, $p < .01$), Adaptability ($r = .221$, $p < .01$), Interpersonal ($r = .186$, $p < .05$), and Intrapersonal($r = .162$, $p < .05$).

Separating the sample by curriculum type uncovered differences (see Table 8). In the EI curriculum section, academic performance had a moderate correlation with total EQ-i ($r = .438$, $p < .05$) and Adaptability ($r = .455$, $p < .05$), whereas these correlations were weak in the non-EI groups ($r = .244$, $p < .05$ and $r = .189$, $p < .05$ respectively). In the EI section, Intrapersonal was significantly correlated with academic performance ($r = .391$, $p < .05$), whereas in the non-EI group there was no significant relationship between these two variables. Adaptability was the only subcomponent significantly correlated to academic performance in both groups. The correlations that were significant in the non-EI sections were weak.

To supplement the statistical data, interviews were conducted with students in each of the curriculum groups. After the course was completed, students were asked to discuss how emotional intelligence contributed to their academic performance. All of those interviewed in the EI curriculum section reported a connection between the concepts of emotional intelligence and the course material. One student stated:

> Learning about concepts of emotional intelligence helped me provide more indepth and intelligent solutions to the case studies we were assigned. I used this information [information about emotional intelligence] to look at each of the individuals in the case studies, how they performed, what behaviors they exhibited, and what would have been better approaches to take.

BEST COPY AVAILABLE

Students in the EI curriculum section used the information they had learned about emotional intelligence to assist them in preparing case study responses, working on team projects, and contributing to class discussions. One student noted:

> I previously hadn't looked at management problems in relation to EQ [emotional intelligence]. Now I have a new lens to analyze issues and it's a better way to evaluate performance. How could you not use EQ in management and in teaching management? It [incorporation of emotional intelligence in curriculum] helped me think about new avenues for handling situations, new ways of getting a better outcome, [and] how to relate to people …; knowing all this, I became more interested in management and in the class.

Another student explicitly discussed how her emotional intelligence was related to her performance in the class:

> My team members and I were talking about our EQ [emotional intelligence] the other day after class. I realized then that my awareness of my EQ strengths and weaknesses has given me the opportunity to look at how I could handle situations differently. Now when I read the cases from class and I think about my own situation and then the person in the case, … all of the sudden I think of better ways to solve the problem. I know that I am doing much better in the class now that I know my own strengths and weaknesses.

In addition to pretest and posttest emotional intelligence scores, change in emotional intelligence was also correlated with academic performance (see Table 9). One significant correlation was found for the entire sample, General Mood ($\underline{r} = .177$, $\underline{p} < .05$). Separation of the sample by curriculum type found that the EI section had higher correlations (ranging from $\underline{r} = .355$ in Adaptability to $\underline{r} = .238$ in Interpersonal) than the non-EI sections (ranging from $\underline{r} = -.020$ in Stress Management to $\underline{r} = .156$ in General Mood), although none was statistically significant.

Discussion

This study presented an opportunity to explore whether emotional intelligence might have an effect on students' ability to learn. Emotional intelligence focuses on how individuals assess and use their emotions.

This research indicated two critical findings: 1) Emotional intelligence can be improved through instruction in a classroom setting. 2) Emotional intelligence is positively correlated with academic performance.

The first research question focused on a key problem in teaching and learning in higher education—namely, whether the new prominent concept of emotional intelligence can be enhanced in graduate professional students through curricular and pedagogical design. To address this question, levels of overall emotional intelligence were measured at the beginning and at the end of one academic semester for two groups of students: one for which emotional intelligence gains were one of the objectives of the course, the other for which they were not. Findings indicate that by the end of the semester, the students in the EI curriculum section had higher average emotional intelligence scores than those in non-EI curriculum sections.

The mean total (overall) EQ-i pretest and posttest scores for the EI curriculum section were 101.16 and 111.06, respectively, or a gain of 8.8%. The results revealed a significant gain in emotional intelligence scores for the EI section. According to Bar-On (1997c), a score of between 90 and 109 represents average, adequate emotional capacity, whereas a score between 110 and 119 represents high, well-developed emotional capacity (see Table 3). This movement of students in the EI curriculum section from average to high emotional intelligence represents an important change for the EI curriculum section. This change was even more significant given that such an intervention had not previously been conducted in the classroom. The mean total EQ-i pretest and posttest scores for the non-EI curriculum sections were 101.92 and 103.70, respectively, or a gain of less than 2%. In other words, in contrast to the EI section, students in the non-EI curriculum sections had little overall change in scores and stayed within the same category—average emotional capacity.

BEST COPY AVAILABLE

It was expected that students involved in the traditional management class (non-EI sections) would not have substantial changes in emotional intelligence scores since none of the course material specifically addressed the concept of emotional intelligence. As discussed previously, the small increase in total EQ-i scores for the non-EI curriculum sections could be attributed to the general content of the course. The objectives of the course address key elements of emotional intelligence, although they are not specifically identified as concepts relating to emotional intelligence. Emotional intelligence as measured in this study includes interpersonal and intrapersonal competencies, problem solving skills, and social responsibility, which are all identified as salient to the course objectives. Participating in a semester-long course designed to address these objectives should have some effect on the emotional intelligence of participants even if a specific stated objective to increase emotional intelligence did not exist.

The increases in emotional intelligence in the EI-curriculum section could also be attributed to the general content of the course, similar to the increases in the non-EI sections. However, if the general course content, which was the same across all sections, was the only contributing factor, then the increases should have been relatively similar in all sections. This was not the case. Gains in the EI section were significantly larger than gains in the non-EI curriculum sections. One student from the section addressing emotional intelligence noted:

> It was beneficial to have the opportunity to identify my strengths and weaknesses in relation to emotional intelligence. Rarely do you have the opportunity for self-assessment in class, even in a management class. I used my team meetings as an opportunity for me to experiment … to work on my weaknesses. … It was like a live case study.

Analysis revealed that changes in students' emotional intelligence levels were related to the type of curriculum offered. The EI-curriculum section had a higher average change score in overall emotional intelligence (9.9) compared to the non-EI curriculum sections (1.7). Although both emotional intelligence posttest scores and change scores were higher in the EI curriculum section, "change" scores serve as a

better measurement of improvement in emotional intelligence than do posttest scores. Posttest scores do not accurately reflect improvement, because they do not take into account the pretest scores of participants. In the EI section, 83.9% of participants had a positive change score, indicating that over three-quarters of the students increased their emotional intelligence score; only 58% of students in the non-EI sections had positive change scores. Change scores in general were normally distributed within each group, rebutting the potential argument that mean scores were increased by large gains in a small percentage of students.

Corporations are investing millions of dollars to assess and enhance emotional intelligence in their employees (Cherniss, 1999; Cherniss & Goleman, 1998). This study has illustrated that emotional intelligence can be taught in a traditional classroom and, more importantly, that levels of emotional intelligence can be increased through this method. Contrary to what critics allege, graduate education can be relevant to current corporate interests. Cherniss (1999) notes that corporate executives view graduate education as too theoretical and lacking consideration for the social and emotional development of students. Haworth (1996) notes that employers have raised critical concerns about the often poorly developed intrapersonal and interpersonal skills of many advanced degree recipients. This study addresses these criticisms and provides an option for educators interested in developing social and emotional skills of students in the traditional classroom.

In this particular case, focusing on emotional intelligence as part of the course material served two purposes: 1) It addressed multiple course objectives relating to intrapersonal and interpersonal skill development, and 2) It offered an avenue to address corporate criticisms by enhancing emotional intelligence in the academic environment.

In addition to a total (overall) emotional intelligence score, each participant received five emotional intelligence composite scale scores. The EI curriculum participants outperformed those in the non-EI sections on each of the posttest composite scale scores. Results indicate that increases in emotional intelligence are more likely to occur in graduate students in a curricular group in which emotional intelligence theory is incorporated into the course material. The posttest scores for the EI

BEST COPY AVAILABLE

section for Intrapersonal, Interpersonal, and Adaptability represented changes from adequate emotional capacity to high, well-developed emotional capacity. The posttest scores for General Mood and Stress Management also increased significantly. Those students in sections that did not offer emotional intelligence as a focus of the curriculum had smaller increases than those in the EI section. Students in the non-EI curriculum sections had average emotional capacity, as defined by Bar-On (1997c), at the outset of the study and remained in the average emotional capacity category at the conclusion of the study.

A look at only posttest scores only indicates that Interpersonal composite scale scores were the only scores that differed significantly by section. The pre-to-post average difference in the Interpersonal score for the EI group of students was 6.77 and for the non-EI groups of students was .07. Although the non-EI sections had a higher average initial (pretest) Interpersonal composite score, 103.49, as compared to the EI average score, 102.55, the non-EI sections' final scores increased by less than one-half of one percent. The Interpersonal composite scale comprises Empathy, Interpersonal Relationship, and Social Responsibility. The EI curriculum section not only achieved higher scores in these areas, but also scored significantly higher in Empathy and Social Responsibility. It is unclear why the EI section posttest subscale score for Interpersonal Relationship was not also significantly different from the non-EI group. One such explanation could be that the general course content covered in all sections included material related to the Interpersonal Relationship subscale. Among the five composite scales, Interpersonal seems to be the most closely aligned with traditional management concepts, such as leadership, teamwork, and managerial style, which are addressed in all sections of the course. Furthermore, all sections have an extensive team project requirement, which may assist students in developing interpersonal skills. By design, teams encourage students to understand, interact, and relate to their team members. These components of the course, which were consistent across all sections, could have had an effect on the Interpersonal Relationship subscale score.

In general, the EI curriculum section improved in greater magnitude than did the non-EI sections in all five of the composite scale scores. Intrapersonal scores for participants in the EI curriculum section

increased more than three times those of non-EI curriculum sections' scores. Interpersonal scores for the EI curriculum section increased more than 96 times those of non-EI curriculum sections' scores. EI section Adaptability scores increased more than 12 times those of non-EI curriculum sections' scores. Stress Management scores for students in the EI curriculum section had an increase of nearly six times those of non-EI curriculum sections' scores. Finally, General Mood scores for the EI curriculum section increased approximately three times more than participant scores in the non-EI curriculum sections.

These differences are evident in the results of the change score analyses. Although the average scores for the non-EI curriculum sections were higher at the beginning of the semester than those of the EI section in four of the five composite scales of emotional intelligence, scores at the end of the semester for the non-EI sections were lower in all five composite scale areas. Change scores for the EI curriculum section were significantly higher than those of the non-EI curriculum sections in all but one area, General Mood. General Mood is not an essential element of emotional intelligence; rather it is a facilitator that can assist in developing other areas of emotional intelligence (Bar-On, 1999). As a result of the new EI curriculum, the four critical components of emotional intelligence—Intrapersonal, Interpersonal, Adaptability, and Stress Management—were significantly enhanced for students in that curriculum section.

Enhancing emotional intelligence is a desirable outcome for students, employees, and employers. Comparisons between the EI curriculum participants and the non-EI curriculum participants show that emotional intelligence can be successfully taught in graduate professional schools. And, if graduate professional schools begin addressing emotional intelligence within the academic environment, corporations will not need to invest millions of dollars, as described by Cherniss and Goleman (1998), to improve emotional intelligence in their employees.

Denhardt and Aristigueta (1996), Diamond (1993), and Senge (1990) have explored the organizational consequences of failures to develop emotional and interpersonal capacities in leaders, work groups, management teams, and organizations. The challenges of today's ever-changing work environment require employees to have highly-developed interpersonal skills. With the introduction of

 BEST COPY AVAILABLE

emotional intelligence into the graduate curriculum, employees and organizations would benefit from the increased emotional capacities developed in these students.

The second question addressed the relationship between emotional intelligence and academic performance. Pretest levels of emotional intelligence were addressed first. Results indicate that academic performance is associated with total (overall) emotional intelligence ($r = .215$, $p < .05$) and the composite scales of Interpersonal ($r = .188$, $p < .05$), Stress Management ($r = .303$, $p < .05$), and General Mood ($r = .234$, $p < .05$) (see Table 7). These positive correlations were found only in the non-EI curriculum sections.

Previous research provides mixed results regarding emotional intelligence and academic performance. This research supports the argument that emotional intelligence and academic performance are related, although not conclusively since the EI group had nonsignificant results. Academic performance was related to pretest emotional intelligence scores of some students. In other words, the level of emotional intelligence a student brings to the classroom was related to his or her academic performance.

Posttest level of emotional intelligence was also compared to academic performance. All five composite scale scores of emotional intelligence and total (overall) emotional intelligence were positively correlated with academic performance (see Table 8) when the entire sample was analyzed. Differences were identified when the curriculum groups were separated. In the EI curriculum section, Interpersonal, Stress Management, and General Mood were not correlated with academic performance, whereas in the non-EI curriculum sections, Intrapersonal was not correlated with academic performance.

Academic performance in the EI curriculum was moderately correlated to total EQ-i score ($r = .438$, $p < .05$), Intrapersonal composite score ($r = .391$, $p < .05$), and Adaptability composite score ($r = .455$, $p < .05$). These findings suggest that students who have the ability to problem solve; who are independent, assertive, self-confident, and flexible; and who are generally attuned to their emotions and feelings were more likely to attain higher levels of academic achievement in the course. The previous research is mixed as to whether academic performance and emotional intelligence are correlated

(Koifman, 1998; Swart, 1996; Tapia, 1998). This research supports the claim that overall emotional intelligence is related to academic performance.

Further research is needed to explore why some of the composite scales of emotional intelligence were associated with academic performance in the non-EI curriculum groups but were not in the EI group. Some correlations, as presented in Table 8, were not significant in the EI group although they were similar in magnitude to the significant correlations in the non-EI group. The small sample size of the EI section could be a reason for the lack of significance between some of the emotional intelligence components and academic performance.

These results provide valuable information to educators seeking to introduce emotional and interpersonal competencies into the curriculum. Academic performance will not be hindered by the introduction of emotional intelligence into the curriculum. Sternberg (1998, p. 14), in his studies addressing IQ and emotional intelligence states, "There has to be much more to school performance than IQ." Gardner (1983, 1989, 1991, 1993b) notes that multiple components, in addition to IQ, are necessary to predict successful performance in individuals. This research supports the work of both Sternberg and Gardner by showing a relationship between emotional intelligence and academic performance.

Academic performance in this study was measured by the final project grade each student received in the course. Future research should also address the cumulative academic performance of students. In addition, research using longitudinal data would be valuable to see both if the increases in emotional intelligence persist and whether academic performance continues to be associated with emotional intelligence.

Conclusion

Relatively little is known about how graduate instruction should incorporate information concerning the way in which emotions can and should be developed in learning environments. Primary and secondary schools have been instrumental in beginning to look at how emotions affect learning in the classroom. Higher education, on the other hand, has yet to explore this relationship fully. The value-added nature of emotional intelligence education presents difficulty in attempting to determine its benefit.

BEST COPY AVAILABLE

Future research and application should address the costs and benefits of incorporating emotional intelligence into the curriculum. Long-term effects of the EI curriculum should be explored. Are increases in emotional intelligence sustained over time? Is the correlation between emotional intelligence and academic performance maintained, increased, or decreased over time? Longitudinal data are critically important to assess the benefits of adding emotional intelligence to a curriculum.

Although Goleman's (1995) work was not groundbreaking, his book on emotional intelligence popularized the concept and raised awareness of the empirical data that have been compiled to support inquiries regarding the effects of emotions on academic and work settings. Since limited empirical research has focused on emotional intelligence in the collegiate environment, this study is only the first step in what is necessary to determine whether there is evidence of an important role for emotional intelligence in graduate professional education.

References

Bar-On, R. (1997a, August). *Development of the BarOn EQ-i: A measure of emotional intelligence.* Paper presented at the annual meeting of the American Psychological Association, Chicago, IL.

Bar-On, R. (1997b). *BarOn Emotional Quotient Inventory User's Manual.* Toronto: Multi-Health Systems.

Bar-On, R. (1997c). *BarOn Emotional Quotient Inventory Technical Manual.* Toronto: Multi-Health Systems.

Bar-On, R. (1999, September). *EI assessment instruments: Exploring the possibilities with industry experts.* Presentation at the Emotional Intelligence: Optimizing Human Performance in the Workplace Conference, Chicago, IL.

Bar-On, R., & Parker, J. D. A. (Eds.). (2000). *The handbook of emotional intelligence.* San Francisco: Jossey-Bass.

Boyatzis, R. E., & Goleman, D. (1999). *Building brilliant organizations: Competencies, complexity and consequences.* Presentation at the Emotional Intelligence: Optimizing Human Performance in the Workplace Conference, Chicago, IL.

Cherniss, C. (1999, January). *Emotional intelligence.* Presentation to the New York University Wagner Graduate School of Public Service, New York: NY.

Cherniss, C., & Goleman, D. (1998). *Bringing emotional intelligent to the workplace.* A technical report of the Consortium for Research on Emotional Intelligence in Organizations. [On-line]. Available: <http://www.eiconsortium.org/emotional_intelligence>

Cherniss, C., & Goleman, D. (Eds.). (2001). *The emotionally intelligence workplace.* San Francisco: Jossey-Bass.

Coghlan, D. (1993). Learning from emotions through journaling. *Journal of Management Education, 17*(1), 90-94.

Cooper, H. M., & Tom, D. Y. (1984). Teacher expectation research: A review with implications for classroom instruction. *Elementary School Journal, 85*(1), 77-89.

BEST COPY AVAILABLE

Denhardt, R. B., & Aristigueta, M. P. (1996). Developing intrapersonal skills. In J. L. Perry (Ed.), *Handbook of public administration*, (pp. 682-695). San Francisco: Jossey-Bass.

Diamond, M. A. (1993). *The unconscious life of organizations.* Wesport, CT: Quorum Books.

Dunn, R. (1987). Research on instructional environments: Implications for student achievement and attitudes. *Professional School Psychology, 2*(1), 43-52.

Elder, L. (1997). Critical thinking: The key to emotional intelligence. *Journal of Developmental Education, 21*(1), 40-41.

Ferro, T. R. (1993). Influence of affective processing in education and training. In D. D. Flannery (Ed.), *Applying cognitive learning theory to adult learning.* New Directions for Adult and Continuing Education, No. 59. San Francisco: Jossey-Bass.

Gardner, H. (1983). *Frames of mind.* New York: Basic Books.

Gardner, H. (1989). Multiple intelligences go to school. *Educational Researcher, 18*(8), 4-10.

Gardner, H. (1991). *The unschooled mind: How children think and how schools teach.* New York: Basic Books.

Gardner, H. (1993a). *Frames of mind: The theory of multiple intelligences* (10th anniversary ed.). New York: Basic Books.

Gardner, H. (1993b). *Multiple intelligences: The theory in practice.* New York: Basic Books.

Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ.* New York: Bantam Books.

Goleman, D. (1998). *Working with emotional intelligence.* New York: Bantam Books.

Goleman, D. (1999, September). *The business case for emotional intelligence.* Presentation at the Emotional Intelligence: Optimizing Human Performance in the Workplace Conference, Chicago, IL.

Graczyk, P. A., Weissberg, R. P., Payton, J. W., Elias, M. J., Greenberg, M. T., & Zins, J. E. (2000). Criteria for evaluating the quality of school-based social and emotional learning programs. In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional intelligence* (pp. 391-410). San Francisco: Jossey-Bass.

Greenwald, R., Hedges, L. V., & Laine, R. (1996). The effect of school resources on student achievement. *Review of Educational Research, 66*, 361-396.

Hanushek, E. A. (1989). The impact of differential school expenditures on school performance. *Educational Researcher, 18*, 45-65.

Haworth, J. G. (1996). *Assessment in graduate education: Present realities, future prospects.* New Directions for Institutional Research, No. 57. San Francisco: Jossey-Bass.

HayGroup. (1999, April). *Studies reveal emotional intelligence is the key to leadership excellence.* [On-line] Available: <http://www.haygroup.com/whatsnew/conferences/emotional_intelligence/ei-about.htm>

Hoberman, S., & Mailick, S. (Ed.). (1994). *Professional education in the United States.* Westport, CT: Praeger.

Holmer, L. L., & Adams, G. B. (1995). The practice gap: Strategy and theory for emotional and interpersonal development in public administration education. *Journal of Public Administration Education, 1*(1), 3-22.

Kaufman, J. (1993, April). *Mood and memory research: The need for a more wholistic approach.* Paper presented at the annual meeting of the American Educational Research Association, Atlanta, GA.

Koifman, R. (1998). *The relationship between E.Q., I.Q., and creativity.* Unpublished manuscript, York University, Toronto.

Lee, V. E., & Loeb, S. (2000). School size in Chicago elementary schools: Effects of teachers' attitudes on students' achievement. *American Educational Research Journal, 37*(1), 3-31.

Lee, V. E., & Smith, J. B. (1997). High school size: Which works best, and for whom? *Educational Evaluation and Policy Analysis, 19*(3), 205-227.

Love, P. G. & Guthrie, V. L. (Eds.). (1999). Understanding and applying cognitive development theory. *New Directions for Student Services*, No. 88. San Francisco: Jossey-Bass.

Love, P. G., & Love, A. G. (1995). *Enhancing student learning.* ASHE/ERIC Higher Education Report No. 4, Washington, DC: Association of Higher Education.

BEST COPY AVAILABLE

Mayer, J. D., & Caruso, D. R. (1999, September). *Ability model of emotional intelligence.* Paper presented at the Emotional Intelligence: Optimizing Human Performance in the Workplace Conference, Chicago, IL.

Mayer, J. D., & Geher, G. (1996). Emotional intelligence and the identification of emotion. *Intelligence, 22*(3), 89-113.

Mayer, J. D., & Salovey, P. (1993). The intelligence of emotional intelligence. *Intelligence, 17*(4), 433-442.

Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey and D. J. Sluyter (Eds.), *Emotional development and emotional intelligence* (pp. 3-31). New York: Basic Books.

Mayer, J. D., Salovey, P., & Caruso, D. (2000a). Emotional intelligence as Zeitgeist, as personality, and as a mental ability. In R. Bar-On & J. D. A. Parker (Eds.). *The handbook of emotional intelligence* (pp. 92-117). San Francisco: Jossey-Bass.

National Association of Schools of Public Affairs and Administration (1998). *Enrollment and degree trends from 1972 to 1998.* [On-line]. Available: <http://www.naspaa.org/sur98_4.htm>

Neisser, U. (1976). General, academic, and artificial intelligence. In L. B. Resnick (Ed.), *The nature of intelligence*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Nye, B., Hedges, L. V., & Konstantopoulos, S. (2000). The effects of small classes on academic achievement: The results of the Tennessee class size experiment. *American Educational Research Journal, 37*(1), 123-151.

Planalp, S., & Fitness, J. (1999). Thinking/feeling about social and personal relationships. *Journal of Social and Personal Relationships, 16*(6), 731-750.

Salovey, P. (1999). Emotional intelligence. In D. Levinson, J. J. Ponzetti & P. F. Jorgensen (Eds.), *Encyclopedia of Human Emotions*. New York: Macmillan.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition, and Personality, 9*(3), 185-211.

Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences, 25*(2), 167-177.

Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization.* New York: Doubleday.

Spearman, C. (1904). "General intelligence," objectively determined and measured. *American Journal of Psychology, 15*(2), 201-293.

Spearman, C. (1914). The theory of two factors. *Psychological Review, 21*(2), 101-115.

Sternberg, R. J. (1985). *Beyond I.Q.* New York: Cambridge University Press.

Sternberg, R. J. (1998). How intelligent is intelligence testing? *Scientific American Presents, 9*(4), 12-17.

Stewart, J. H. (1997). *Practical intelligence: Assessing its convergent and discriminant validity with social, emotional, and academic intelligence.* Unpublished doctoral dissertation, The University of Southern Mississippi, Hattiesburg.

Sullivan, S. F. (1995). Feeling smart, emotional intelligence and selling. *Life Association News, December*, 18-53.

Sutarso, T., Baggett, L. K., Sutarso, P., & Tapia, M. (1996, November). *Effect of gender and GPA on emotional intelligence.* Paper presented at the annual meeting of the Mid-South Educational Research Association, Tuscalossa, AL.

Swart, A. (1996). *The relationship between well-being and academic performance.* Unpublished master's thesis, University of Pretoria, South Africa.

Tapia, M. (1998). *A study of the relationships of the emotional intelligence inventory.* Unpublished doctoral dissertation, The University of Alabama, Tuscaloosa.

Thatcher, D. (1990). Experience as learning: Implications for training and operation. *Simulation/Games for Learning*, 20(3), 276-302.

Uttal, D. H. (1997). Beliefs about genetic influences on mathematics achievement: A cross-cultural comparison. *Genetica, 99*(2/3), 165-172.

BEST COPY AVAILABLE

Wentzel, K. R. (1991). Relations between social competence and academic achievement in early adolescence. *Child Development, 62*, 1066-1078.

White, C. R. (1982). The relation between socioeconomic status and academic achievement. *Psychological Bulletin, 91*, 461-481.

Table 1
EQ-i Five Conceptual Components and Fifteen Subcomponents

EQ-i Total
Intrapersonal Components Emotional Self-Awareness, Assertiveness, Self-Regard, Self-Actualization, Independence
Interpersonal Components Interpersonal Relationship, Social Responsibility, Empathy
Adaptability Components Problem Solving, Reality Testing, Flexibility
Stress Management Components Stress Tolerance, Impulse Control
General Mood Components Happiness, Optimism

Note. Individual definitions are included in Table 2.

BEST COPY AVAILABLE

Table 2
Fifteen Subscale Definitions of the EQ-i

Factor	Definition
Emotional Self-Awareness	the ability to recognize and understand one's feelings
Assertiveness	the ability to express feelings, beliefs, and thoughts and defend one's rights in a nondestructive manner
Self-Regard	the ability to be aware of, understand, accept, and respect oneself
Self-Actualization	the ability to realize one's potential capacities and to strive to do that which one wants to do and enjoys doing
Independence	the ability to be self-directed in one's thinking, decisions, and actions and to be free of emotional dependency
Interpersonal Relationship	the ability to establish and maintain mutually satisfying relationships characterized by emotional closeness
Social Responsibility	the ability to demonstrate oneself as a cooperative, contributing, and constructive member in one's social group
Empathy	the ability to be aware of, to understand, and to appreciate the feelings of others
Problem Solving	the ability to identify and define problems as well as to generate and implement potentially effective solutions
Reality Testing	the ability to validate one's feelings by examining the correspondence between the subjective and the objective
Flexibility	the ability to adjust one's emotions, thoughts, and behaviors to changing situations and conditions
Stress Tolerance	the ability to withstand adverse events, stressful situations, and strong emotions without getting too overwhelmed
Impulse Control	the ability to resist or delay an impulse, drive, or temptation to act and to control one's emotions
Happiness (facilitator)	the ability to feel satisfied with one's life, to enjoy oneself and being with others, and to have fun
Optimism (facilitator)	the ability to look at the brighter side of life and to maintain a positive attitude, even in the face of adversity

Note. Adapted from Bar-On, 1997c.

Table 3
Interpretive Guidelines for EQ-i Scores

Standard	Interpretive Guidelines
130+	Markedly High—atypically well-developed emotional capacity
120-129	Very High—extremely well developed emotional capacity
110-119	High—well-developed emotional capacity
90-109	Average—adequate emotional capacity
80-89	Low—underdeveloped emotional capacity, requiring improvement
70-79	Very Low—extremely underdeveloped emotional capacity requiring improvement
Under 70	Markedly Low—atypically impaired emotional capacity, requiring improvement

Table 4
Means and Standard Deviations for EQ-i Scores

	Pretest Total EQ-i Score			Posttest Total EQ-i Score		
Curriculum	M	SD	N	M	SD	N
Non-EI Curriculum	101.92	13.26	119	103.70	13.52	119
EI Curriculum	101.16	13.29	31	111.06	10.95	31
Total	101.77	13.23	150	105.22	13.33	150

BEST COPY AVAILABLE

Table 5

Means and Standard Deviations for EQ-I Composite Scores

Intrapersonal		Interpersonal		Adaptability		Stress Management		General Mood			
Curriculum		Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Non-EI Curriculum	M	101.57	104.16	103.49	103.55	102.85	103.51	101.42	102.83	100.28	102.39
SD	13.86	14.37	11.58	11.68	14.21	14.60	13.86	13.79	13.04	12.97	
EI Curriculum	M	101.00	110.58	102.55	109.32	103.61	111.65	98.74	106.90	98.81	105.35
SD	14.94	13.03	12.83	10.64	11.76	11.21	12.50	13.80	12.49	10.32	
Total	M	101.45	105.49	103.29	104.75	103.01	105.19	100.87	103.67	99.97	103.01
SD	14.04	14.30	11.81	11.68	13.70	14.32	13.59	13.85	12.90	12.50	

Note: Non-EI Curriculum n = 119, EI Curriculum n = 31, Total N = 150

Table 6
Means and Standard Deviations of EQ-i Composite Change Scores

Curriculum		Change in Intrapersonal EQ-i Composite Score	Change in Interpersonal EQ-i Composite Score	Change in Adaptability EQ-i Composite Score	Change in Stress Management EQ-i Composite Score	Change in General Mood EQ-i Composite Score
Non-EI Curriculum	M	2.59	.07	.66	1.41	2.12
	SD	7.18	8.61	8.08	8.14	8.70
	N	119	119	119	119	119
EI Curriculum	M	9.58	6.77	8.03	8.16	6.55
	SD	12.02	11.34	12.16	9.95	10.44
	N	31	31	31	31	31
Total	M	4.03	1.45	2.19	2.81	3.03
	SD	8.83	9.59	9.51	8.94	9.22
	N	150	150	150	150	150

BEST COPY AVAILABLE

Table 7

Correlations between Pretest Emotional Intelligence and Academic Performance by Curriculum Type

Curriculum			1	2	3	4	5	6	7
Non-EI Curriculum	1. Total EQ-i Score	r	1.000						
		p	.						
	2. Intrapersonal EQ-i Composite Score	r	.894	1.000					
		p	.000	.					
	3. Interpersonal EQ-i Composite Score	r	.620	.465	1.000				
		p	.000	.000	.				
	4. Adaptability EQ-i Composite Score	r	.889	.695	.472	1.000			
		p	.000	.000	.000	.			
	5. Stress Management EQ-i Composite Score	r	.725	.491	.293	.664	1.000		
		p	.000	.000	.001	.000	.		
	6. General Mood EQ-i Composite Score	r	.809	.747	.431	.639	.541	1.000	
		p	.000	.000	.000	.000	.000	.	
	7. Academic Performance	r	.215	.113	.188	.148	.303	.234	1.000
		p	.019	.222	.040	.109	.001	.010	.
EI Curriculum	1. Total EQ-i Score	r	1.000						
		p	.						
	2. Intrapersonal EQ-i Composite Score	r	.937	1.000					
		p	.000	.					
	3. Interpersonal EQ-i Composite Score	r	641	.517	1.000				
		p	.000	.003	.				
	4. Adaptability EQ-i Composite Score	r	.933	.844	.495	1.000			
		p	.000	.000	.005	.			
	5. Stress Management EQ-i Composite Score	r	.647	.440	.369	.644	1.000		
		p	.000	.013	041	.000	.		
	6. General Mood EQ-i Composite Score	r	.793	.768	.443	.694	.304	1.000	
		p	.000	.000	.013	.000	.096	.	
	7. Academic Performance	r	.091	.146	-.100	.067	.091	.012	1.000
		p	.625	.435	.593	.719	.626	.949	.

Note. Non-EI Curriculum n = 119, EI Curriculum n = 31, Total N = 150.

Table 8

Correlations between Posttest Emotional Intelligence and Academic Performance by Curriculum Type

Curriculum	Variables		1	2	3	4	5	6	7
Non-EI Curriculum	1. Total EQ-i Score	R	1.000						
		P	.						
	2. Intrapersonal EQ-i Composite Score	R	.917	1.000					
		P	.001	.					
	3. Interpersonal EQ-i Composite Score	R	.564	.489	1.000				
		P	.001	.001	.				
	4. Adaptability EQ-i Composite Score	R	.867	.705	.318	1.000			
		P	.001	.001	.001	.			
	5. Stress Management EQ-i Composite Score	R	.719	.509	.156	.673	1.000		
		P	.001	.001	.089	.001	.		
	6. General Mood EQ-i Composite Score	R	.811	.753	.467	.606	.554	1.000	
		P	.001	.001	.001	.001	.001	.	
	7. Academic Performance	R	.244	.124	.194	.189	.293	.340	1.000
		P	.007	.178	.035	.040	.001	.001	119
EI Curriculum	1. Total EQ-i Score	R	1.000						
		P	.						
	2. Intrapersonal EQ-i Composite Score	R	.892	1.000					
		P	.001	.					
	3. Interpersonal EQ-i Composite Score	R	.444	.248	1.000				
		P	.012	.179	.				
	4. Adaptability EQ-i Composite Score	R	.892	.770	.193	1.000			
		P	.001	.001	.297	.			
	5. Stress Management EQ-i Composite Score	R	.539	.192	.321	.481	1.000		
		P	.002	.301	.078	.006	.		
	6. General Mood EQ-i Composite Score	R	.815	.777	.253	.666	.267	1.000	
		P	.001	.001	.170	.001	.147	.	
	7. Academic Performance	R	.438	.391	.112	.455	.267	.307	1.000
		P	.014	.030	.549	.010	.147	.093	31

Note. Non-EI Curriculum n = 119, EI Curriculum n = 31, Total N = 150.

BEST COPY AVAILABLE

Table 9

Correlations between Change in Emotional Intelligence and Academic Performance by Curriculum Type

Curriculum	Variables		1	2	3	4	5	6	7
Non-EI Curriculum	1. Change in Total EQ-i Score	r	1.000						
		p	.						
	2. Change in Intrapersonal EQ-i Composite Score	r	.847	1.000					
		p	.001	.					
	3. Change in Interpersonal EQ-i Composite Score	r	.704	.520	1.000				
		p	.001	.001	.				
	4. Change in Adaptability EQ-i Composite Score	r	.719	.485	.298	1.000			
		p	.001	.001	.001	.			
	5. Change in Stress Management EQ-i Composite Score	r	.649	.360	.343	.447	1.000		
		p	.001	.001	.089	.001	.		
	6. Change in General Mood EQ-i Composite Score	r	.668	.557	.517	.274	.373	1.000	
		p	.001	.001	.001	.001	.001	.	
	7. Academic Performance	r	.064	.031	.010	.081	-.020	.156	1.000
		p	.492	.738	.917	.380	.831	.090	.
EI Curriculum	1. Change in Total EQ-i Score	r	1.000						
		p	.						
	2. Change in Intrapersonal EQ-i Composite Score	r	.961	1.000					
		p	.001	.					
	3. Change in Interpersonal EQ-i Composite Score	r	.865	.790	1.000				
		p	.001	.001	.				
	4. Change in Adaptability EQ-i Composite Score	r	.908	.858	.687	1.000			
		p	.001	.001	.001	.			
	5. Change in Stress Management EQ-i Composite Score	r	.729	.590	.639	.613	1.000		
		p	.001	.001	.001	.001	.		
	6. Change in General Mood EQ-i Composite Score	r	.893	.828	.776	.768	.705	1.000	
		p	.001	.001	.170	.001	.001	.	
	7. Academic Performance	r	.294	.242	.238	.355	.255	.289	1.000
		p	.108	.189	.239	.050	.166	.115	.

Note. Non-EI Curriculum n = 119, EI Curriculum n = 31, Total N = 150.

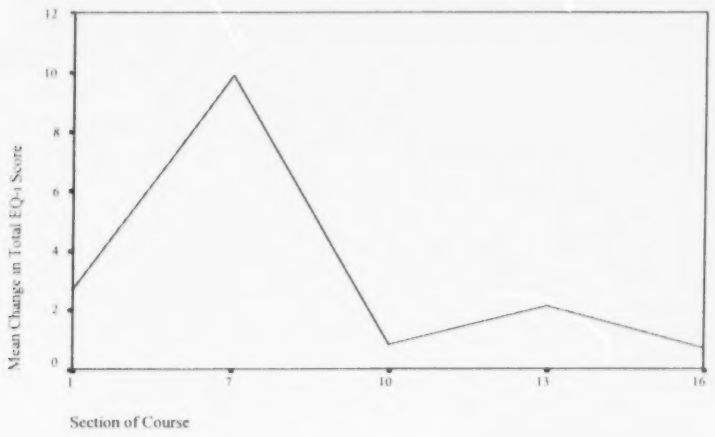

Figure 1. Change in emotional intelligence by section.